

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A seal assembly comprising:
an inner pipe and an outer pipe in a double- walled subsea pipeline, wherein the inner pipe has a normal operating condition wherein it is connected and operable for transmitting a hydrocarbon through the inner pipe;
an annular space formed between the inner pipe and the outer pipe wherein the annular space has a normal operating condition wherein it is connected and operable for permitting gas to pass through the annular space; and
a seal in the annular space and operable for sealing the annular space,
wherein the seal under the normal operating conditions of the inner pipe and the annular space is in a non-sealing position which allows passage of a gas through the seal assembly; and
wherein under the normal operating conditions of the inner pipe and the annular space, the seal is actuatable from a the non-sealing position to a sealing position in response to ~~the~~ entry of liquid into ~~said~~ the annular space.
2. (Currently Amended) A seal assembly according to claim 1 wherein ~~the seal~~ in the non-sealing position, the seal provides an opening past the seal and in the annular space to allow passage of the gas through the seal ~~assembly~~; and wherein the seal comprises an annular member defining the opening past the seal and a moveable block operable such that entry of liquid into the annular space causes movement of the block to close the opening in the annular space.
3. (Currently Amended) A seal assembly according to claim 2 wherein the block is moveable under pressure of liquid flow in the annular space.
4. (Canceled)
5. (Currently Amended) A seal assembly according to claim 3 wherein

(a) the annular member comprises one or more orifices ; and
(b) the moveable block comprises a diaphragm and a closure member placed in the annular space such that flow of liquid in the annular space causes movement of the diaphragm and the movement of the diaphragm ~~which~~ causes movement of the closure member to close ~~said~~ the one or more orifices.

6. (Currently Amended) A seal assembly according to claim 5 wherein the diaphragm and the closure member are both annular in shape around the inner pipe.

7. (Previously Presented) A seal assembly according to claim 2 wherein:

(a) the annular member comprises one or more valves; and
(b) each of the valves comprises one or more orifices and the moveable block such that flow of liquid in the annular space causes movement of the moveable block to close the one or more orifices.

8. (Previously Presented) A seal assembly according to claim 7 wherein each of the valves comprises a blocking plate with an orifice and the moveable block comprises a diaphragm and a closure member, wherein the closure member has apertures such that flow of liquid in the annular space causes movement of the diaphragm which causes movement of the closure member against the blocking plate closing the orifice in the blocking plate and the apertures in the closure member.

9. (Currently Amended) A seal assembly according to claim 7 wherein the moveable block comprises a biased element attached to a closure member and the biased element is held in a biased position by a liquid-sensitive material such that flow of liquid in the annular space causes interaction of the liquid with the ~~said~~ liquid-sensitive material causing ~~said~~ the liquid-sensitive material to release the biased element so that ~~said~~ the biased element effects movement of the closure member to close the one or more orifices.

10. (Previously Presented) A seal assembly according to claim 9 wherein the biased element is a spring.

11. (Previously Presented) A seal assembly according to claim 9 wherein the liquid-sensitive material is a water-soluble salt.

12. (Previously Presented) A seal assembly according to claim 7 wherein the annular member comprises one or more tubes and the one or more valves are situated in the tubes.

13. (Currently Amended) A seal assembly according to claim 2 wherein the annular member is dimensioned so as to extend from an inner wall of the outer pipe to an outer wall of the inner pipe and as to be in sealing contact with each of the inner and the outer walls while the annular member has the opening therein past the seal.

14. (Currently Amended) A seal assembly according to claim 2 wherein

- (a) the annular member is dimensioned so that in the normal operating conditions, the annular member is as to be in sealing contact with only one of an inner wall of the outer pipe and an outer wall of the inner pipe ~~and~~ so as to provide an opening in the annular space between the annular member and the wall with which it the annular member is not in sealing contact; and
- (b) the moveable block comprises a resilient element which is deformable under the pressure of liquid flow in the annular space to close the opening.

15. (Previously Presented) A seal assembly according to claim 14 wherein the annular member has a longitudinal end face which has a recess to define upper and lower arms and wherein one of the arms is the resilient element deformable under the pressure of liquid flow in the annular space to close said opening.

16. (Previously Presented) A seal assembly according to claim 15 further comprising an annular restraint bonded to the upper and lower arms of the annular member.

17. (Canceled)

18. (Canceled)